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ABSTRACT

This document describes a project which has serviced 226 students of limited English proficiency. Participating students received instruction in English as a Second Language (ESL); Haitian native language arts (NLA); and the content areas of mathematics, science, and computer science. Multicultural education was an integral part of programming. Teachers of participating students had the opportunity to attend weekly meetings, conferences, and workshops. Project CARISMA sought to establish an active parental component, which included ESL classes and educational field trips. Project CARISMA met its objectives for NLA; the content areas of science and computer science; dropout prevention; attendance; staff development; and parental involvement. The project failed to meets its objectives for ESL and the content area of mathematics. Recommendations of the project include: (1) Assess reasons for lack of growth in participants' English language skills and consider offering intensive ESL on the literacy level, particularly for recently immigrated students; and (2) Explore additional techniques to increase students' acquisition of skills in mathematics, possibly by initiating a peer tutoring component or using paraprofessionals to work with students during study halls or outside school hours. (MKR)

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ED 382 465

OER Report

Career Awareness through Research
in Science and Math Achievement
for Haitian High School Students in New York City
(Project CARISMA)
Transitional Bilingual Education Grant T003D30126
Final Evaluation Report
1993-94

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Career Awareness through Research
in Science and Math Achievement
for Haitian High School Students in New York City
(Project CARISMA)
Transitional Bilingual Education Grant T003D30126
Final Evaluation Report
1993-94

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EXECUTIVE SUMMARY

Career Awareness through Research in Science and Math Achievement for Haitian High School Students in New York City (Project CARISMA) was an Elementary and Secondary Act (E.S.E.A.) Title VII-funded project in its first year in 1993-94. The project functioned at Samuel J. Tilden High School in Brooklyn. In the year under review, Project CARISMA served a total of 226 students of limited English proficiency (LEP). Participating students received instruction in English as a second language E.S.L.); Haitian native language arts (N.L.A.); and the content area subjects of mathematics, science, social studies, and computer science.

Multicultural education was an integral part of programming. Although there was a resource room, the space was shared by another project, making the area crowded and less desirable to students.

Teachers of participating students had the opportunity to attend weekly meetings, conferences, and workshops.

Project CARISMA sought to establish an active parental component, which included E.S.L. classes and educational field trips.

Project CARISMA met its objectives for N.L.A.; the content area subjects of science and computer science; dropout prevention; attendance; staff development; and parental involvement. The project failed to meet its objectives for E.S.L. and the content area subject of mathematics.

The conclusions, based on the findings of this evaluation, lead to the following recommendation:

- Assess reasons for the lack of growth in participants' English language skills. Consider offering intensive E.S.L. on the literacy level, particularly for recently immigrated students.

- Explore additional techniques to increase students' acquisition of skills in mathematics, possibly by initiating a peer tutoring component or using paraprofessionals to work with students during study halls or outside school hours.

- If possible, move the resource room to larger quarters.

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I. INTRODUCTION

This report documents the Office of Educational Research's (OER's) evaluation of the Elementary and Secondary Education Act (E.S.E.A.) Title VII project, Career Awareness through Research in Science and Math Achievement for Haitian High School Students in New York City (Project CARISMA) which was in its first year of funding.

PROJECT CONTEXT

The project operated at Samuel J. Tilden High School in Brooklyn. The school is located in an ethnically diverse community made up of Latinos, Asian-Americans, African-Americans, and European-Americans, many of them recent immigrants.

In 1992-93, the last year for which such data were available, the student population at Samuel J. Tilden High School was comprised mostly of African-American students. Of the 2,508 students, 95.3 percent were African-American, 3.7 percent were Latino, 0.4 percent were European-American, and 0.6 percent were Asian-American. Of those enrolled, nine percent were of limited English proficiency (LEP), and 15 percent came from low-income families as indicated by their eligibility for the free-lunch program.

Samuel J. Tilden High School was housed in a building which dated to 1930. The classrooms were well lit and spacious. The halls were crowded and noisy with a large number of security personnel on patrol. Student work and announcements of student activities were posted.

STUDENT CHARACTERISTICS

Project CARISMA served a total of 226 students in grades nine though twelve. There were 84 students in ninth grade, 58 students in tenth grade, 51 students in eleventh grade, and 29 students in twelfth grade. The project did not provide the grade placement of four students. Of these students, 100 percent were LEP. LEP status was determined by Language Assessment Battery (LAB) scores at or below the 40th percentile. Academic records, as well as teacher, administrator, or guidance counselor recommendation were considered for admission to the project.

Of those students for whom the place of birth was known, all but one were born in Haiti. The one student who was not had been born in Guyana of Haitian Parents.

Needs Assessment

Before implementing the project, staff conducted a needs assessment of the targeted students and their families as well as of the educational staff who were to serve them. The data obtained from these studies indicated three primary needs: (1) to provide LEP students with intensive English and native language instruction and support services to improve their school performance; (2) to augment career preparation by providing LEP students with essential instruction in mathematics, science, and computer science; and (3) to offer staff development and support specifically directed toward teachers of LEP students of Haitian origin.

PROJECT OBJECTIVES

Student Objectives

- As a result of participation, 60 percent of the target students will demonstrate an appropriate increase in English language proficiency as indicated by significant improvement at the .05 level of statistical significance when results are analyzed using a correlated *t* test.

- As a result of participation, 60 percent of the students will achieve a passing grade of 65 or better in Haitian Creole.

- As a result of participation 65 percent of all target students will show a significant gain and achieving a passing grade of 65 or better in the area of mathematics.

- As a result of participation, 65 percent of all targeted students will show a significant gain and achieving a passing grade of 65 or better in the area of science.

- As a result of participation, 65 percent of students enrolled in computer science will show a significant gain and achieving a passing grade of 65 or better in the area of computer science.

- Program students will have a significantly lower drop-out rate than that of mainstream students.

- As a result of participation, students' attendance will be five percent greater than that of mainstream students.

Staff Development Objective

- As a result of participation, 75 percent of program staff members will enroll in at least one university course each year.

Parental Participation Objective

- The proportion of program students' parents who participate in Open School Day/Evening will be equal to or greater than the proportion of mainstream students' parents who participate in this activity.

PROJECT IMPLEMENTATION

During the 1993-1994 school year, Project CARISMA students received instruction in English as a second language (E.S.L.), native language arts (N.L.A.), and content area subjects. The project provided career guidance and field trips to participating students.

The project's resource room was particularly small and shared with another group. Many students came to this room for assistance in various areas of study but the room was extremely crowded, making it undesirable to students. The project organized a newsletter which included student work and essays.

Materials, Methods, and Techniques

Samuel J. Tilden High School offered E.S.L. at beginning, intermediate, and advanced levels and N.L.A. at literacy to advanced placement levels. Project teachers used a wide array of strategies and techniques to aid student learning, including cooperative learning, the whole language approach, peer and teacher tutoring, and the writing process. Content area subjects were taught in the native language at first and then more in English, using an E.S.L. approach. Instructional strategies included the use of cooperative learning, and individual as well as group tutoring.

Capacity Building

Project CARISMA did not provide information on capacity building since it was in its first year.

Staff Qualifications

Title VII staff. Title VII partially funded the salaries of the project director, one resource teacher, one educational assistant, and one bilingual office aide. For a description of degrees held and language proficiency (teaching or communicative*), see Table 1.

TABLE 1

Project Staff Qualifications

Position Title	Degree(s)	Language Proficiency
Project Director (1)	M.S.,M.A ABD	TP/NS
Resource Teacher (1)	1 B.S.	1 Haitian TP/NS
Educational Assistant	2 yrs College	Haitian NS
Bilingual Office Aide	2 yrs College	Haitian NS

The project director's responsibilities included guiding project staff, supervising the development of curricular materials, conducting staff development workshops, collecting data, preparing reports, monitoring the project budget, planning Bilingual Parent Advisory Committee (BPAC) activities, and eliciting community support.

The resource teachers' responsibilities included providing cultural activities and career guidance for students, choosing materials, supervising the resource room and

*Teaching proficiency (TP) is defined as the ability to use LEP students' native language in teaching language arts or other academic subjects. Communicative proficiency (CP) is defined as a non-native speaker's basic ability to communicate and interact with students in their native language. NS = Native Speaker.

peer tutoring activities, advising students about college, administering vocational tests, and assisting the project director.

The educational assistant's responsibilities included assisting teachers, administering tests and reviewing results with teachers and students, translating materials, tutoring, and assisting with curriculum development and trip planning.

The bilingual office aide assisted in various facets of project implementation. These duties ranged from office work to assisting other project staff in carrying out their responsibilities.

Other staff. Tax levy and other funds paid the salaries of 14 teachers (3 full-time, 11 part-time), two bilingual educational assistants, one bilingual guidance counselor, and one social worker who provided services to participating students. All teachers held appropriate certification for the areas in which they taught. For a description of degrees held and language competencies, see Table 2.

TABLE 2

Qualifications of Non-Title VII Staff

Position Title	Degree(s)	Language Proficiency
14 Teachers (11 part-time & 3 full-time)	6 M.A. 4 M.S. 4 B.S.	6 Haitian NS/TP 1 Haitian NS/TP 3 English 2 Haitian NS/TP 2 English
1 Social Worker	B.A., M.S.	Haitian NS
1 Guidance Counselor	B.S., M.S.	Haitian NS
2 Educational Assistants	2 yrs of College	Haitian NS

Staff Development.

Staff development activities included workshops and training sessions on teaching strategies. Workshop topics included new teaching strategies, promoting bilingual education, and teaching Haitian. Monthly staff meetings were also held.

Instructional Time Spent on Particular Tasks.

See Appendix B for examples of class schedules.

Length of Time Participants Received Instruction

Students had a mean of 8.4 years (s.d.=1.5) of education in a non-English speaking school system and 2.0 years (s.d.=1.1) of education in the United States. The median amount of time students participating in Project CARISMA was 10 months.

Activities to Improve Pre-Referral Evaluation Procedures for Exceptional Children

Teachers referred those students thought to be in need of special education services to the School-Based Support Team (S.B.S.T.) for evaluation. The social worker was proficient in Spanish, but other staff translated for Haitian students as necessary.

Gifted and talented students were identified by teacher recommendations and course grades and placed in Advanced Placement or Honors Classes.

Instructional Services for Students with Special Needs

No participating students in the year under review were identified as students with special needs.

PARENT AND COMMUNITY INVOLVEMENT ACTIVITIES

The project sponsored a variety of parental involvement activities that included workshops, E.S.L. classes, and field trips. The project invited parents from community businesses and agencies to speak to students at career assemblies.

II. EVALUATION METHODOLOGY

EVALUATION DESIGN

Project Group's Educational Progress as Compared to That of an Appropriate Non-Project Group

The Office of Educational Research (OER) used a gap reduction design to evaluate the effect of language instruction on project students' performance on standardized tests. Because of the difficulty in finding a valid comparison group, OER used instead the groups on which the tests were normed. Test scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.1. It is assumed that the norm group has a zero gain in N.C.E.s in the absence of supplementary instruction and that participating students' gains are attributable to project services.

Applicability of Conclusions to All Persons Served by Project

Data were collected from all participating students for whom there were pre- and posttest scores. (There were no pretest data on students who entered the program late; therefore, posttest data for them will serve as pretest data for the following year.) Instruments used to measure educational progress were appropriate for the students involved. The LAB is used throughout New York City to assess the growth of English skills in populations similar to those served by Project CARISMA.

INSTRUMENTS OF MEASUREMENT

OER compared pre- and posttest scores on the LAB to assess the E.S.L. objective. The content area objectives in mathematics, science, and computer

science were assessed through course grades, as specified.

All students were tested at the appropriate grade level. The language of the LAB was determined by the test itself.

According to the publishers' test manuals, all standardized tests used to gauge project students' progress are valid and reliable. Evidence supporting both content and construct validity is available for the LAB. Content validity is confirmed by an item-objective match and includes grade-by-grade item difficulties, correlations between subtests, and the relationship between the performance of students who are native speakers of English and students who are LEP. To support reliability, the Kuder-Richardson Formula 20 (KR20) coefficients and standard errors of measurement (SEM) are reported by grade and by form for each subtest and total test. Grade reliability coefficients, based on the performance of LEP students on the English version, ranged from .88 to .96 for individual subtests and from .95 to .98 for the total test.

DATA COLLECTION AND ANALYSIS

Data Collection

To gather qualitative data, an OER evaluation consultant carried out on-site and telephone interviews with the project director several times during the school year and also observed two classes on each of two visits. The project evaluator collected the data and prepared the final evaluation report in accordance with the New York State E.S.E.A. Title VII Bilingual Education Final Evaluation Report format, which was adapted from a checklist developed by the staff of the Evaluation

Assistance Center (EAC) East in consultation with the Office of Bilingual Education and Minority Language Affairs (OBEMLA).

Proper Administration of Instruments

Qualified personnel received training in testing procedures and administered the tests. Test administrators followed guidelines set forth in the manuals accompanying standardized tests. Time limits for subtests were adhered to; directions were given exactly as presented in the manual.

Testing at Twelve-Month Intervals

Standardized tests were given at 12-month intervals, following published norming dates.

Data Analysis

Accurate scoring and transcription of results. Scoring, score conversions, and data processing were accomplished electronically by the Scan Center of the Board of Education of the City of New York. Data provided by the Scan Center were analyzed in the Bilingual, Multicultural, and Early Childhood Evaluation Unit of OER. Data collectors, processors, and analysts were unbiased and had no vested interest in the success of the project.

Use of analyses and reporting procedures appropriate for obtained data. To assess the significance of students' achievement in English, Haitian, and mathematics, OER computed a correlated *t*-test on the LAB, and MAT-Math/CAT N.C.E. scores. The *t*-test determined whether the difference between the pre- and posttest scores was significantly greater than would be expected from chance variation alone.

The only possible threat to the validity of any of the above instruments might be that LAB norms were based on the performance of English proficient (EP) rather than LEP students. Since OER was examining gains, however, this threat was inconsequential—the choice of norming groups should not affect the existence of gains.

III. FINDINGS

PARTICIPANTS' EDUCATIONAL PROGRESS

Project CARISMA carried out all instructional activities specified in its original design.

Participants Progress In English

Throughout the school year, students had ample opportunity to develop their English language skills. E.S.L. was offered at beginning, intermediate, and advanced levels.

An OER evaluation consultant observed a beginning-level E.S.L. class at Samuel J. Tilden High School. The lesson centered on verbs. The students received a handout containing sentences with underlined verbs. The students had to change the underlined verb to the desired past tense form. The teacher called upon students to read their answers aloud, and then reviewed vocabulary. The students were exceptionally attentive throughout the entire lesson. A paraprofessional was available to those students in need of additional help. He gave one-on-one attention to a number of students throughout the class period.

The OER evaluation consultant also observed an intermediate E.S.L. class of 22 students. The classroom was small, but not crowded. The room had freshly painted walls and was decorated with student art and written work.

The lesson, which was conducted completely in English, focused on how to write a bibliography. The students were divided into groups of four or five and were

given index cards and a handout which had information about various books. They were instructed to organize this material into proper bibliographic format. When they had completed the assignment, they traded cards with their neighbors to check for errors.

The students were attentive, and respectful of the teacher and each other throughout the lesson. They participated in the lesson by volunteering answers and asking questions. No paraprofessional was present during the lesson.

The evaluation objective for E.S.L. was:

- As a result of participation, 60 percent of the target students will demonstrate an appropriate increase in English language proficiency as indicated by significant improvement at the .05 level of statistical significance when results are analyzed using a correlated *t* test.

There were complete pre- and posttests for 104 students from grades nine through twelve. While the average gain of 2.7 N.C.E.s (s.d.=7.2) for these students was statistically significant ($p<.05$), only 39.4 percent showed a gain from pretest to posttest.

Project CARISMA failed to meet its E.S.L. objective.

Participants Progress in Native Language Arts

N.L.A. was offered five periods a week at literacy to advanced placement levels.

The OER evaluation consultant observed an intermediate N.L.A. class. The classroom was decorated with posters and bulletins with phrases in both English and Haitian. There were plants by the window, and the room was bright and spacious.

The lesson centered on a poem entitled, *Mesi Désalin*. The teacher began the lesson by giving biographical material about the poet, J.J.D. Anbwaz. The students were given a handout of the poem and instructed to read it to themselves. The teacher then had each student read a stanza aloud for the class. When the reading was complete, the teacher began a discussion of the influence of immigration on poets and their work.

While a majority of the class seemed enthusiastic and interested in the lesson, some students were apathetic and one even seemed to fall asleep.

The evaluation objective for N.L.A. was:

- As a result of participation, 60 percent of the students will achieve a passing grade of 65 or better in Haitian Creole.

In the fall semester 91.9 percent of the enrolled students achieved passing grades in N.L.A. In the spring, 92.3 percent of participating students achieved passing grades.

Project CARISMA met its objective for N.L.A.

LEP Participants' Academic Achievement

Teachers used Haitian in content area classes at the beginning of the year, then gradually made the transition to English with an E.S.L. methodology. They used a variety of strategies and techniques, including cooperative learning and research projects.

The content area objectives were:

- As a result of participation, 65 percent of the students will show a significant gain and achieving a passing grade of 65 or better in the area of mathematics.
- As a result of participation, 65 percent of all targeted students will show a significant gain and achieving a passing grade of 65 or better in the area of science.
- As a result of participation, 65 percent of all targeted students will show a significant gain and achieving a passing grade of 65 or better in the area of computer science.

Both semester, over 70 percent of participating students received passing grades in science and computer science, but not in mathematics. (See Table 3.)

Project CARISMA met its content area objectives for science and computer science. It failed to meet its content area subject objective for mathematics.

TABLE 3

Passing Grades in Content Area Courses

Content Area Subject	Fall, 1993		Spring, 1994	
	Number of students for whom data were reported	Percent Passing	Number of students for whom data were reported	Percent Passing
Mathematics	168	52.4	196	58.7
Science	154	79.2	170	85.9
Computer science	34	79.4	32	87.5

FORMER PARTICIPANTS' ACADEMIC PROGRESS IN ENGLISH LANGUAGE CLASSROOMS

Since this was the first year of the project, there were no former participants.

OVERALL EDUCATIONAL PROGRESS ACHIEVED THROUGH PROJECT

Mainstreaming

The project did not propose an objective for mainstreaming. No students were mainstreamed during the year under review.

American Culture and Citizenship

Project CARISMA did not propose an objective for American culture and citizenship. However, the project planned a number of field trips to acquaint participants with cultural aspects of life in the United States.

Grade Retention

Project CARISMA did not propose an objective for reducing grade retention. Two students (0.9 percent) will be retained in grade.

Dropout Prevention

Project CARISMA proposed one objective for dropout prevention:

- Program students will have a significantly lower dropout rate than similar non-program students.

In the year under review, one project student (0.4 percent) dropped out. The schoolwide dropout rate was 3.7 percent.

Project CARISMA met its objective for dropout prevention.

Attendance

The project had one attendance objective:

- As a result of participation, students' attendance will be five percent greater than that of mainstream students.

Project students had an attendance rate of 96.8 percent. The schoolwide attendance rate was 83.6 percent. The attendance rate of participating students was almost 13 percent higher than that of mainstream students.

Project CARISMA met its attendance objective.

Placement in Gifted and Talented Programs

Project CARISMA did not propose any objectives for placement in gifted and talented programs. The project reported that students who excelled in subjects were placed in honors classes and invited to act as peer tutors.

Enrollment in Post-secondary Education Institutions

The project did not propose an objective for this area. It reported that 22 of the 29 graduating seniors (76 percent) were planning to enroll in a post-secondary educational institution.

CASE HISTORY

C. was born in Haiti in 1977 and migrated to the United States in 1993. At home, she and her family spoke only Haitian. C. said that Project CARISMA helped her when she began school: she was struggling in her classes. She earned an average of 67 for the first marking period and the next semester, raised it to 76. In N.L.A., average rose from 75 to 90 percent. C. said that being able to use her own language in the classroom and having her questions answered in that language

helped her greatly.

In addition to C.'s cognitive skills are also being developed and her E.S.L. class has helped to enrich her vocabulary. She participated in the Science Research class and in project tutorials. She is thinking of going on to Medical School and becoming a pediatrician.

STAFF DEVELOPMENT OUTCOMES

The project proposed the following objective for staff development:

- As a result of participation, 75 percent of program staff members will enroll in at least one university course each year.

Four staff members (80 percent) enrolled in at least one university course during the first year of the project.

Project CARISMA met its staff development objective.

CURRICULUM DEVELOPMENT OUTCOMES

The project did not propose any objectives for curriculum development.

PARENTAL INVOLVEMENT OUTCOMES

Project CARISMA posed the following objective for parental involvement:

- The proportion of program students' parents who participate in Open School Day/Evening will be equal to or greater than the proportion of mainstream students' parents who participate in this activity.

Seventy percent of project parents attended Open School Day/Evening, compared to 22.5 percent of mainstream parents.

Project CARISMA met its objective for parental involvement.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

ACHIEVEMENT OF OBJECTIVES

Project CARISMA met its objectives for N.L.A.; the content area subjects of science and computer science; dropout prevention; attendance; staff development; and parental involvement. The project failed to meet its objectives for E.S.L. and the content area subject of mathematics.

Participating students in Project CARISMA showed academic progress. Of the 226 participating students in grades 9 through 12, 224 either graduated or were promoted to the next grade. The students showed gains in Haitian native language arts and the content areas of science and computer science, as indicated by their final course grades. They showed gains in English language proficiency on the LAB, although they did not increase their scores on the LAB at the rate projected.

Project services not only benefited the students academically but also increased their awareness of the importance of education. The attendance rate of participating students was considerably higher and the dropout rate lower than that of the Samuel J. Tilden mainstream population.

Teachers attended graduate courses to increase their knowledge of bilingual education. Workshops and conferences proved useful to teachers and project staff in their project-related responsibilities.

Project parents participated in Open School Day/Evening at a higher rate than did mainstream parents.

MOST AND LEAST EFFECTIVE COMPONENTS

A highly effective component of Project CARISMA was the project's ability to stimulate participation among project parents.

The least effective component of the project was the lack of attainment of mathematics skills. Additionally, the resource room was a problem since it was small and was shared by another group, making efforts to conduct such activities as tutoring ineffective.

RECOMMENDATIONS TO ENHANCE PROJECT EFFECTIVENESS

- Assess reasons for the lack of growth in participants' English language skills. Consider offering intensive E.S.L. on the literacy level, particularly for recently immigrated students.
- Explore additional techniques to increase students' acquisition of skills in mathematics, possibly by initiating a peer tutoring component or using paraprofessionals to work with students during study halls or outside school hours.
- If possible, move the resource room to larger quarters.

APPENDIX A

Instructional Materials

E.S.L.

Grade	Title	Author	Publisher	Date of Publication
9-10	Write from the Start	*	McGraw Hill	1984
9-10	Access to English	R. Breckenridge	McGraw Hill	1984
9-10	ESL Sentences Book	*	McGraw Hill	1984
9-10	ESL Reading Comprehension	*	NYC Board of Education	1987
9-10	More Plain English	R. Daughter		
9-10	Pathways to English	National Council of Teacher	McGraw Hill	1984
9-10	Tales of Mystery	*	NYC Board of Education	1990
9-10	Poetry Lessons	*	*	*
9-10	Dixson Grammar	Dixson	McGraw Hill	1988
9-10	Three Comedies of American Life	*	*	*
10-11	Sounder	W.H. Armstrong	Harper	1989
10-11	The Pearl	J. Steinbeck	Penguin Books	1987
11-12	English Grammar and Composition	Warriner, et al.	Harcourt, Brace and World Inc	1965

*Information was not provided.

APPENDIX A

Instructional Materials, cont'd.

N.L.A.

Grade	Title	Author	Publisher	Date of Publication
9	Ann Aprann Otograf Kréyol	Iv Dejan	Kapab	1986
9	Tim Tim Bwa Sech	Gerard Tardieu	Imp. des Sc.	1987
9	CAI Haitian Creole	Tittle VII Haitian Program	NYC Board of Education	1990
9	Lékti Kréyol	Tittle VII Haitian Program	Department of National Ed.	1987
9	Konprann sa nou li	Title VII Haitian Program	Henri Deschamps	1984
9-10	Flé Dizé	Jean C. Martineau	Haitiana Pub.	1982
9-10	Piti Piti Plen Kay	Serge Madhere	Kapab, Inc.	1987
9-10	Pélen Tét	Frank Etienne	Editions du Soleil	1978
9-10	Dézafi	Frank Etienne	Editions Fardin	1975
9-10	Adjanoumélézo	Frank etienne	Editions Fardin	1987
9-10	Espérans Désiré	Deyita	Henri Deschamps	1989
9-10	Kont nan Jaden ti Toma	*	*	*
9-10	Lammou pa gen baryé	Emile Celestin M.	Edition Fardin	1975
10-12	Dyakout I,II,III,& IV	Felix Leroy	Haitiana Pub.	1990

*Information was not provided.

APPENDIX A

Instructional Materials, cont'd.

Mathematics

Grade	Title	Author	Publisher	Date of Publication
9	Prensip débaz nan Matematik	G. Dimanche	NYC Board of Education	1988
9	Kalkil as sistem métrik	*	Editions des Antilles	1991
9-10	Préparasyon pou RCT	Teacher made	NYC Board of Education	1992
9-10	Achieving Competence in Math	Teacher made	NYC Board of Education	1992
9-10	Integrated Math	Dressler & Keenan	Amsco	1989

Science

Grade	Title	Author	Publisher	Date of Publication
9	Biology	*	Holt	1991
9	Picture Dictionary	Roger E. Savain	Harcourt Brace	1994
9	Syans Fizik (I & II)	Teacher made	Title VII	1991
9	Student Workbook	Teacher made	Title VII	1992
9-10	The Study of Matter	Henri Dorin	Prentice Hall, Inc.	1992
10	Biology	Charles Tanzer	Prentice Hall, Inc.	1992
10	Physical Science	L. Bernstein	Globe Book Co.	1986
10	Chemistry 4th Edition	Demmin and Gabel	Prentice Hall	1992
10	Earth Science	Daley, Beacon, Higham, & Mattmas	Prentice Hall	1992
11	Physics	Toffel	Prentice Hall	1992

*Information was not provided.

APPENDIX A

Instructional Materials, cont'd.

Social Studies

Grade	Title	Author	Publisher	Date of Publication
9-10	Istwa Jéneral I & II	Teacher made	Title VII	1992
9-10	Entwodiksyon nan Etid Istwa Jéneral	Teacher made	Title VII	1992
10-11	U.S. History & Economics for Everyone	Antell/Harris	Amsco	1992

APPENDIX B

Class Schedules

Ninth Grade

Day	Period	Subject
M-F	1	E.S.L.
M-F	2	E.S.L.
M-F	3	Science
M-F	4	E.S.L.
M-F	5	Fundamental Math
M-F	6	N.L.A.(Haitian)
M-F	7	Lunch
M-F	8	Global Studies

Twelfth Grade

Day	Period	Subject
M-F	1	Sequential Math 2
M-F	2	E.S.L.
M-F	3	E.S.L.
M-F	4	Health Instruction
M-F	5	U.S. Government
M-F	6	N.L.A. (Haitian)
M-F	7	Physical Education
M-F	8	Keyboard Application